SOLUTIONS FOR HOMEWORK PROBLEMS 16.1

MATH 132 WI00

4

$\int 2x^{25}\,dx = 2\int x^{25}\,dx = 2\frac{x^{25+1}}{25+1} + C = 2\frac{x^{26}}{26} + C$

10

$\int \frac{7}{2x^{\frac{9}{4}}}\,dx = \frac{7}{2}\int x^{-\frac{9}{4}}\,dx = \frac{7}{2}\frac{x^{-\frac{9}{4}+1}}{-\frac{9}{4}+1} + C = \frac{7}{2}\frac{x^{-\frac{5}{4}}}{-\frac{5}{4}} + C$

22

$\int (\frac{e^x}{3} + 2x)\,dx = \frac{1}{3}\int e^x\,dx + 2\int x\,dx = \frac{1}{3}e^x + 2\frac{x^2}{2} + C$

40

$\int (\sqrt[3]{x} - \frac{1}{\sqrt[3]{x}})\,dx = \int (x^{\frac{1}{3}} - x^{-\frac{1}{3}})\,dx = \frac{x^{\frac{4}{3}}}{\frac{4}{3}} - \frac{x^{\frac{2}{3}}}{\frac{2}{3}} + C$

42

$\int x^4(x^3 + 3x^2 + 7)\,dx = \int (x^7 + 3x^6 + 7x^4)\,dx = \frac{x^8}{8} + 3\frac{x^7}{7} + 7\frac{x^5}{5} + C$

52

$\int \frac{(x^4+1)^2}{x^3}\,dx = \int \frac{x^8+2x^4+1}{x^3}\,dx = \int (x^5 + 2x + x^{-3})\,dx = \frac{x^6}{6} + 2\frac{x^2}{2} + \frac{x^{-2}}{-2} + C$

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